Welcome to the second part of this week’s focus on quality in public health. My name is Anita Farel. I am in the Department of Maternal and Child Health, UNC at Chapel Hill and currently teach a couple of QI courses. I co-Direct the National MCH Workforce Development Center and work primarily with the Center’s Pipeline Team.

In this presentation, we will

- Describe the quality continuum using an analogy of fighting fires
- Explore quality improvement as an open feedback system
• Define quality in Public Health in more detail, and
• Explain the performance management cycle.

Each of these topics help an organization or program move along the quality continuum from early to mature efforts.

According to the Baldrige Performance Excellence Program,

“Learning is an essential attribute of high-performing organizations. Effective, well-deployed organizational learning can help an organization improve from early stages of reacting to problems to the highest level of organization-wide improvement, refinement and innovation.”
To better understand the quality continuum, it’s helpful to use an analogy. The analogy on the next few slides is taken from the Baldrige Performance Excellence Program, Healthcare Criteria for Performance Excellence.

Stage I is reacting to the problem.
   The fire fighters run with the hose and hope to put out the fire.
In stage II, there is a general improvement orientation.
At this stage, they install more fire hoses to get to the fires quickly and reduce their impact.

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<table>
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<th>Quality Continuum</th>
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| • Stage III: Systematic Evaluation and Improvement  
  – Evaluate which locations are most susceptible to fire. Install heat sensors and sprinklers in those locations. |
| • Stage IV: Learning and Strategic Improvement  
  – Install system-wide heat sensors and a sprinkler system that is activated by the heat preceding fires. |


In stage III of the continuum, there is a progression to systematic evaluation and improvement. At this stage, fire fighters identify the locations most susceptible to fire. Importantly, additional preventive action to install heat sensors and sprinklers in those locations occurs.

Stage IV includes learning and strategic improvement.
Stage IV builds upon stage III by installing system-wide heat sensors and a sprinkler system that is activated by the heat preceding fires.

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Finally, in stage V, the organization is able to operate on a higher level with regard to organizational analysis and innovation. At this stage, there would be widespread use of fireproof and fire-retardant materials. Combustible liquids would be replaced with water-based liquids. In this way, prevention is the primary approach for protection, with sensors and sprinklers as the secondary line of defense.

With a focus on prevention, public health professionals are well positioned to embrace quality improvement and move along the continuum.

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Now let’s turn to the concept of improving quality within the context of an open-feedback system.
Consider the simplest open-feedback system. Inputs go through a conversion process to create outputs. Feedback loops are also present.

If we think about quality management as an open-feedback system, we can strengthen outputs by improving the various components in the system.

- We can improve the quality of the inputs;
- We can improve the quality of the conversion processes; and
- We can improve the quality of the feedback within the system.
The Inputs of a process are transformed by the process into the end product or service required by the customer. Inputs can be tangible, e.g, written data, or intangible, e.g, verbal requests. In a health services organization and in public health settings, examples of inputs include patients, personnel, supplies, equipment, facilities, and capital.

Improving the inputs in public health can be achieved in a variety of ways. For example, public health agencies have the opportunity to implement changes in:

- Professional licensure or certification
- Education requirements and performance reviews for staff
- Licensure and accreditation reviews at the agency level
- Funding
- Technology

As an industry begins efforts in quality management, improving inputs is a common place to start.
Improving Conversion

- Improve conversion processes by using:
  - Research evidence
  - Private and public policy
  - Standards
  - Standard operating procedures
  - Lessons from other industries
  - Quality improvement

Conversion processes may be imposed either externally or internally, e.g., customer specifications, legislative requirements and copyright laws are all externally imposed, whereas internal quality checks and organizational procedures are derived from within the organization. Examples of conversion processes in a health care setting include diagnostic processes, clinical treatments, operational activities, and business management functions.

Improving the conversion processes in public health can be achieved in a variety of ways.

- For example, ongoing research offers more effective ways to improve population health. In turn, research evidence can be used to inform policy.

- As policies change, they can be used to improve conversion processes; for example, changing standards or standard operating procedures for universal newborn screening will result in changes in practice (the way infants are screened and treated).

- Quality improvement methods used by other industries, including business and health care, may be applied to existing public health processes to improve how they are executed at the national, state, and local levels.

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The Internet has dramatically improved feedback in public health in the past two decades. Feedback includes what type of information is collected, how and to whom the information is distributed, and what action is taken based on the information.

Disease surveillance and outbreak management are enhanced with rapid electronic communication so outbreaks may be tracked, managed and communicated more effectively; for example, outbreaks related to preventable childhood diseases such as measles and pertussis.

The Patient Protection and Affordable Care Act requires nonprofit hospitals to conduct a community health needs assessment at least once every three years. When approached in a collaborative way, feedback between public health practitioners and health care delivery professionals can improve.

Computer capacity allows large data set analysis and geographic information systems.

Improving feedback represents a more advanced stage of quality because it reinforces the importance of feedback for improvement and the need to connect the parts of the system.
When thinking about improvement in public health, consider two domains of quality management: The first domain includes activities associated with the core public health services. If one desires to improve smoking behaviors among pregnant or child-bearing age women (that is, quit smoking), one would seek the most current evidence to improve inputs, conversion processes and feedback.

The second domain of quality management targets how to improve the organization or program itself. In other words the inputs, conversion processes and feedback that allow one to execute the evidence in the best way to achieve the desired population outcomes. For example, inputs may include upgrading computer equipment; conversion processes may include processes for securing funds; and feedback may include organizational performance data.
Now let’s explore how public health has evolved to emphasize quality.

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Public Health

“Quality in public health is the degree to which policies, programs, services, and research for the population increase desired health outcomes and conditions in which the population can be healthy.”

Public Health Quality Forum (PHQF), 2008

As a reminder, quality in public health has been defined as “the degree to which policies, programs, services, and research for the population increase desired health outcomes and conditions in which the population can be healthy.” Public Health Quality Forum (PHQF), 2008

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Characteristics of Quality

- Population-centered
- Equitable
- Proactive
- Health promoting
- Risk-reducing
- Vigilant
- Transparent
- Effective
- Efficient
National public health leaders have selected the following nine characteristics to describe the quality of public health policies, programs, and services:

- population-centered,
- equitable,
- proactive,
- health promoting,
- risk-reducing,
- transparent,
- effective, and
- efficient.

In this Module, the readings present in detail how the definition evolved and how the characteristics (also referred to as aims) were chosen. You will also read about what these terms mean—both as they define the characteristics of quality in public health and as they serve as aims to guide public health quality efforts.

Over the past several years, much work has been done to advance quality improvement in public health. This model from the Public Health System, Finance, and Quality Program at HRSA, offers a framework for Quality Improvement in Public Health. Let’s look at the various components of this model. The definition of quality is at the top.
The characteristics of quality are referred to as Public Health Quality Aims – that is they define the characteristics of the vision for public health quality: building better systems to give all people what they need to reach their full potential for health.

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At the bottom of the model, you see that a quality management system is part of the overall public health system.

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You also see four types of quality approaches that comprise the quality management system: Quality Assessment, Quality Improvement, Quality Control and Quality Assurances. Each of these approaches has a place in a quality management system and no single approach can stand alone in a mature quality management system.

Previously, we have discussed quality improvement, quality control and quality assurance, in this Module.

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Quality assessment is another component of a quality management system. In this context, assessment refers to evaluating public health services according to predefined quality standards. A quality assessment helps to identify strengths and opportunities for improvement.
Some of you may be familiar with the process of state and local public health accreditation, which uses Public Health Accreditation Standards as a foundation for quality assessment.

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**Public Health Standards**

“The focus of the standards, measures, and required documentation is “what” the health department provides in services and activities, irrespective of “how” they are provided or through what organizational structure or arrangement.”


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It is important to note that “The focus of the standards, measures, and required documentation is “what” the health department provides in services and activities, irrespective of “how” they are provided or through what organizational structure or arrangement.” In Lesson 1, we talked about quality as “Doing the right thing and doing the right thing right.”

The standards define the right things to do and provide the flexibility for public health practitioners to decide how to do these things right according to the local environment, conditions, and current evidence. This flexibility allows a common level of quality across different public health specialties and different types of public health agencies, programs, and organizations operating in different environmental contexts.
This slide illustrates how quality assessment and quality standards fit into a comprehensive quality management system.

Performance standards or requirements establish the benchmark for performance. The requirements may come from the industry itself (as in the public health accreditation standards), customers, stakeholders, the government, technical specifications, and best practice evidence. Regardless of the source, the requirements represent what must be accomplished to achieve quality.
The performance measurement step may be thought of as the performance assessment step. This is the step where actual performance is compared to the standard.

The process of performance assessment identifies performance strengths and also identifies gaps between the standard and current performance. The standard may be in the form of a narrative description as in the Public Health Accreditation Standards and the gap identified as the standard is present or not present.

The standard may be in the form of a quantitative description using data such as infant mortality rates. Other quantitative descriptions may include the degree that technical specifications are met or not met and number of defects produced. This is the step where Quality Control and Quality Assurance are used.
The next step is to resolve any identified gaps by aligning processes and systems with the requirements and standards. This is the step where *improvement* approaches - such as Quality Improvement, Lean Thinking, and Six Sigma – are used.

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The final step is monitoring and tracking to ensure the gap is being closed and / or is staying closed. Monitoring may occur at different intervals depending on the type of monitoring and the circumstances involved. For example, some items may be reported daily (for example, personnel work hours); some may be reported monthly (for example, budget variance), and some may be reported annually (for example, morbidity and mortality rates).
The arrows connecting the steps show that performance management is ongoing and continuous. This enables public health professionals to identify changing requirements and performance problems, so they may be addressed in a timely way.

Robust implementation of a performance management cycle indicates movement along the quality continuum to a more advanced or mature stage in the quality journey.

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Summary

- Improving quality within the context of an open feedback system
- Quality in public health
- Performance management cycle

In this presentation, we
- Explored quality improvement within the context of an open-feedback system
- Reviewed the HRSA model for quality in public health, and
- Showed how standards, measurement, improvement, and reporting are interdependent parts of the performance management cycle.